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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,251	11/12/2003	Takamitsu Higuchi	Q78440	3192

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EXAMINER	
DOUGHERTY, THOMAS M	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/705,251	HIGUCHI ET AL.	
	Examiner	Art Unit	
	Thomas M. Dougherty	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2003*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-83* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-83* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 6, 7, 38, 39, 49, 58, 59, drawn to a method of forming a piezoelectric material by ion beam assist method, classified in class 117, subclass 108 or class 29, subclass 29.35.

II. Claims 2-5, 7, 38, 39, 41, 42, 58 and 59, drawn to a method of forming a piezoelectric material including a sol and formation of precursor, classified in class 117, subclass 108 or class 29, subclass 29.35.

III. Claims 8-13, 38, 39, 43-45, 58 and 59, drawn to a method of forming an electrode by ion beam assist on a substrate in a piezoelectric device, classified in class 117, subclass 108 or class 29, subclass 29.35.

IV. Claims 14-25, 38, 39, 46-51, 58 and 59, drawn to a method of making a piezoelectric device including forming an intermediate film on a substrate by ion beam assist, classified in class 117, subclass 108 or class 29, subclass 29.35.

V. Claims 26, 31, 38, 39, 52, 58 and 59, drawn to a method for forming a piezoelectric device of two layers by ion beam assist and deposition, classified in class 117, subclass 108 or class 29, subclass 29.35.

VI. Claims 28-31, 38, 39, 58 and 59, drawn to a method of forming a piezoelectric device comprising formation of a two-layer bottom electrode

by ion beam assist and deposition, classified in class 117, subclass 108 or class 29, subclass 29.35.

VII. Claims 32, 33, 38, 39, 58 and 59, drawn to a method of making a piezoelectric device in which a surface on which the piezoelectric is to be formed is irradiated with an ion beam classified in class 117, subclass 108 or class 29, subclass 29.35.

VIII. Claims 34, 35, 38, 39, 58 and 59, drawn to a method of making a piezoelectric device in which a surface on which an electrode to be formed is irradiated with an ion beam prior to electrode formation, classified in class 117, subclass 108 or class 29, subclass 29.35.

IX. Claims 36-39, 54, 58 and 59, drawn to a method of manufacturing a piezoelectric device including irradiation a surface for formation of an intermediated film, classified in class 117, subclass 108 or class 29, subclass 29.35.

X. Claims 56, 58 and 59, drawn to a method for manufacturing a ferroelectric device in which a surface on which a ferroelectric film is to be formed is irradiated with an ion beam, classified in class 117, subclass 108 or class 29, subclass 29.35.

XI. Claims 57-59, drawn to a method for manufacturing a ferroelectric device including irradiating a surface on which an intermediated film is to be formed with an ion beam, classified in class 29, subclass 25.35, or class 117, subclass 108.

XII. Claims 60, 70 and 71, drawn to a piezoelectric device with an in-plane orientation, classified in class 310, subclass 312.

XIII. Claims 61, 70, 71, drawn to a piezoelectric device with a bottom electrode that is a film with an in-plane orientation, classified in class 310, subclass 312.

XIV. Claims 62, 63, 69-71, 74, 75 and 81-83, drawn to a piezoelectric device with an intermediate film formed with an in-plane orientation, classified in class 310, subclass 348.

XV. Claims 64, 70, 71, 76, 82 and 83, drawn to a piezoelectric device with a two layer intermediated film, classified in class 310, subclass 311.

XVI. Claims 65, 70, 71, 76, 82 and 83, drawn to a piezoelectric device comprised of two layers of piezoelectric material differently formed, classified in class 310, subclass 331.

XVII. Claims 66, 70, 71, drawn to a piezoelectric device with an electrode is comprised of two layers, differently formed, classified in class 310, subclass 364.

XVIII. Claims 67, 70, 71, 79, 82, 83, drawn to a piezoelectric device on a buffer or diaphragm, classified in class 310, subclass 324.

XIX. Claims 68, 70-72, 80, 82 and 83, drawn to a piezoelectric device in which a surface is irradiated, classified in class 310, subclass 360.

XX. Claims 73, 82 and 83, drawn to a ferroelectric device in which an electrode has an in-plane orientation, classified in class 310, subclass 348.

XXI. Claims 78, 82 and 83, drawn to a ferroelectric device with an electrode of two layers differently formed, classified in class 310, subclass 364.

The inventions are distinct, each from the other because of the following reasons:

Inventions of the manufacturing groups and the product groups are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case capacitive devices can be made by the methods, surface acoustic wave devices, alternatively the products can be made by other methods such as using preformed components.

Inventions within the manufacturing groups and within the product groups are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are differently made with different component arrangements, albeit slight at times, and consequently will have different effects.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for certain of the groups, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Direct inquiry to Examiner Dougherty at (571) 272-2022.

tmd

tmd

June 28, 2005

TOM DOUGHERTY
PRIMARY EXAMINER